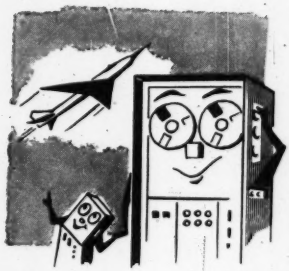
MARCH • 1960

Supervisory Management



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AMERICAN MANAGEMENT ASSOCIATION

Words to Live By

No Work So Rude

By Henry Giles

MAN MUST WORK. That is as certain as the sun. But he may work grudgingly or he may work gratefully; he may work as a man or he may work as a machine. There is no work so rude that he may not exalt it; no work so impassive that he may not breathe a soul into it; no work so dull that he may not enliven it.

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are APPRAISALS really NECESSARY?

By Robert H. Finn
Plantation Pipe Line Company

Do employees need a formal appraisal program, if supervisors keep them informed from day to day?

SOME YEARS BACK, our company began an employee-appraisal program aimed at improving communication and understanding between our first-line supervisors in operations and maintenance, and their subordinates. The program called for a once-a-year appraisal of each employee's performance, followed by a personal interview with the supervisor.

As part of the program, all supervisors were given what we believed to be adequate training in appraisal techniques and interviewing skills. As time went on, however, it became increasingly clear that the program was hardly living up to expectations. More and more, our supervisors were making such comments as:

► "Who needs this appraisal business anyway? We talk to our employees every day—they know how they are getting along. What's the sense of having a formal appraisal program?"

► "I just can't see the value of having periodic interviews with employees. I know my employees well and if one of them has something he wants to talk about, he's not going to wait until his annual interview to discuss it with me."

► "Some of the men are afraid of the appraisals—they think we're just building up records that can be used against them some day. And those who aren't afraid are indifferent to them."

► "Employees with seniority don't care what their supervisor thinks of them. We're just wasting our time in going through an appraisal, and having interviews with our people, because they don't pay attention to what you say. And if you do suggest how they can improve their job performance, they only resent it."

Clearly, our program was not going to work if a substantial number of supervisors had this attitude. But what did these comments imply? Did supervisors and employees neither want nor need the kind of relationship we thought they did? Or did a happy state of mutual understanding already exist, making the appraisal and interview program unnecessary? Perhaps our supervisors were criticizing the program in reaction to their own failure to make a success of it. Were there flaws in the design or application of the program?

Faced with these questions, we decided to make a thorough and impartial study of the appraisal and interview program.*

Design of the study

Our operating and maintenance personnel are stationed at a number of locations along our system. There are about 55 first-line supervisors and some 400 nonsupervisory employees. All the supervisors have at least eight years of service; the average is about 15 to 16 years—and, on the average, they have supervised for 10 to 12 years. Our typical nonsupervisory employee is also of fairly long service—labor turnover amounts to about 4 per cent a year. Employee relations in the organization are relatively stable.

In studying our appraisal program, we placed particular emphasis on the postappraisal interview. We wanted to find out what happened in a typical interview, and how both supervisors and their subordinates saw the interview situation. We decided that small group-discussion meetings would be the best way of uncovering the basic attitudes we were looking for.

Supervisors' attitudes

Our first step was to make an intensive study of the attitudes of our supervisors. Meetings were held consisting of a discussion leader and two, three, or four supervisors. Participants were assured that the

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* This study was carried out by the writer, a member of the company's Employee Relations Department, in conjunction with Mr. C. P. Sparks of Richardson, Bellows, Henry and Company. The author is grateful to Mr. Sparks for his helpful suggestions in the preparation of this article.

source of individual comments would not be identified, and they were generally free to direct the discussion along whatever lines they wished.

Early in these meetings it became clear that a major factor in the supervisor's attitude toward the appraisal and interview program was the way he thought his employees felt about being evaluated and interviewed. Most of the supervisors held pretty definite opinions about employee attitudes. These opinions and their accuracy will be discussed a little later in the article.

"Who needs appraisals when you've got seniority?"

Employees' meetings

After completing the supervisory group meetings, we held similar meetings with a sample of our nonsupervisory employees. This sample included employees in each of three categories:

1. *Employees relatively young (25-35) and relatively new* in company service (around five years). All were in our beginning operating classification—"Utility man." These employees are likely to be with the company for many years to come. Most will eventually reach the highest operating classification, and a few will advance to supervisory positions. The proper development of these employees is essential to the continued well-being of the company.

2. *Employees in the highest operating classification*—"Operator." These are men in their forties who have been with the company for 10 to 15 years. They have virtually no advancement possibilities except to a supervisor's job. Much of the responsibility for the actual operation of the system rests with these men, so we are highly interested in their attitudes and level of performance.

3. *Older employees, in both age and length of company service.* They were in the "Pipeliner" (semiskilled maintenance) or "Utility man" classifications. For one reason or another most are not considered qualified for further promotion. These employees were reported by supervisors to be generally most difficult to interview.

Discussion questions

We held six meetings, each attended by four employees from the same category. Thus we met with two groups from each of the three groups of employees. The participants were drawn from a variety of locations, and each was asked to discuss the appraisal and interview program with other employees at his work location before coming to the meeting.

Some typical "lead" questions used in these meetings were:

"To what extent do employees feel free during an interview to talk with their supervisors about things that are bothering them?

How about at other times during regular working hours?"

"How did you feel after you had your last interview?"

The discussions were lively, usually lasting about three hours. Since the six meetings showed little variation in opinion, we felt it was unnecessary to expand the sample. Subsequent talks with a much larger number of employees have confirmed that the opinions expressed at the small group meetings were generally representative.

Now let's take a look at some of the opinions about appraisals and interviews expressed by supervisors and employees.

Is the appraisal interview superfluous?

The supervisors agreed that a major purpose of the appraisal and interview program was to make sure that each supervisor should take time out at least once a year to sit down with each of his employees to discuss his job performance and other pertinent matters. They further agreed—at least intellectually if not emotionally—that, properly handled, these discussions should help to improve communications and understanding between the supervisor and his subordinates. At the same time, however, they thought that a formal program was not necessary.

The supervisor should, they said, discuss work problems and job performance with his employees on a continuing basis—and this was what they did and would continue to do, with or without a formal program. They also felt that most employees would not hesitate to bring problems to their supervisor's attention at any time.

The employees agreed that supervisors should make a practice of having fairly frequent private talks with their men to discuss mutual problems and to clear up any misunderstandings that might develop. But, they said, many supervisors did not do this: If there were no interview program, few supervisors would ever get around to sitting down with their employees for such a discussion. Employees also pointed out that they sometimes used the formal interview to bring up personal matters that they might not otherwise have discussed with

WHAT THEY SAID:

► **About the need for communications and contact—**

Supervisors: Discussions of performance and mutual problems are necessary, but a formal program is not needed.

Employees: Discussions are necessary, but supervisors might not hold them without a formal program.

their supervisor. Some typical comments were:

► "It's true that a supervisor may often talk with his employees, but he doesn't take the time except during an appraisal interview, and not always then, to go over the entire job and discuss it with them thoroughly."

"The supervisor may chew you out, but he never gets around to having a heart-to-heart talk."

► "A supervisor will chew you out occasionally but very few will take the time and trouble to sit down with you for a heart-to-heart talk except at interview time."

► "Most employees like the interview because it gives them a chance to talk with their supervisors about things that they would not want to bring up while they were working."

From these comments, it is evident that the discussions carried on by supervisors in the routine performance of their jobs did not satisfy the employees' need for communication and contact. The employees were in favor of some kind of periodic interview because it gave them the opportunity to talk things over with their supervisors more thoroughly—even though, admittedly, not all employees were anxious to take advantage of this opportunity.

A one-way street

Most of the supervisors reported that, on the whole, the interview was a one-sided affair, with the supervisor doing most of the talking. A supervisor would frequently wind up the discussion without having much idea about the opinions and attitudes of the employee.

As the following comments show, employees agreed with the supervisors on this point:

► "Some supervisors can't take it as well as they can dish it out. Sometimes a man just lets something drop rather than have his supervisor or management get mad at him."

► "An employee may not agree with what his supervisor says, but often he does not feel free to say so."

► "Employees hesitate to let their hair down during an interview."

Further exploration indicated that the problem was not so much that employees were afraid of or intimidated by their supervisors as that the supervisor apparently did not know how—or didn't try—to stimulate discussion by the employee. The employees felt a need for private discussions with their supervisors, and felt that the interview program provided this opportunity. But the actual interviews fell short of satisfying the hopes and expectations of both sides.

"Some supervisors can't take it as well as they can dish it out."

The operators showed much less inhibition about the interview than did the other two categories of em-

WHAT THEY SAID:

► **About the success of the interview—**

Supervisors: They did most of the talking, and learned little about employees' reactions, attitudes, opinions.

Employees: They did not feel free to speak their minds.

ployees. This is understandable: The operators have been with the company a long time and are only one notch below the supervisory level, so that the difference in status is much less marked.

Should old-timers be interviewed?

The supervisors felt that it was helpful for each employee to be appraised and interviewed annually for his first five years of employment. But after that, they believed strongly, he was likely to derive little or no benefit from the interview. By the time a man has been with the company five years, they said, he knows what is expected of him and where he stands. They suggested that an employee with five years' service or more should be interviewed only if he had experienced some kind of job change during the previous year, such as a promotion or transfer.

From the employee group meetings it was clear, however, that all employees, regardless of age, length of company service, or job classification, wanted periodic interviews with their supervisors and that once a year was not too often. It is worth noting that they were more interested in the interview than in being formally appraised. Though a formal appraisal every other year was sufficient for employees with five years' service or more, they thought, they still wanted some kind of private, scheduled discussion with their supervisors at least once a year.

Does the supervisor count?

Many supervisors felt that the interviews were often fruitless because, they said, few employees really cared what their supervisors thought of them. In matters like promotion or layoff, the men were protected by the seniority provisions in the union contract. So in many cases, the supervisors declared, appraisals and interviews were just a waste of time.

But the employees were almost unanimously of another mind. They felt an employee did care what his supervisor thought of him, for at least two reasons. First, even though employees were protected by seniority, within limits, it was still possible, they thought, for a supervisor to help or hurt an employee's career with the company. Second, they said, an employee should try to get along with his supervisor, regardless of seniority status, because this makes for a more pleasant work atmosphere and a more enjoyable job.

WHAT THEY SAID:

► **About the need for interviews with long-service employees—**

Supervisors: After five years, the employee knows where he stands; interviews are unnecessary.

Employees: Regardless of length of service, they want an interview with the boss, at least once a year, although *formal* appraisals may not be necessary.

► "Employees do care how their supervisors feel about them. Whether or not a man turns out to be a good employee depends largely on his supervisor."

► "You can do a better job if there is good understanding between you and your boss."

► "You have to be liked by your supervisor if you are ever to get promoted to a better job not covered by seniority. But even if you knew you were never going to get another promotion, you would still want to get along with your supervisor."

The employees' comments show that, in their eyes, the supervisor's position carried status, authority, and influence. They tended to approach the interview in a receptive frame of mind.

"You can do a better job if you and your supervisor get along well."

Acceptance of criticism

The appraisal form used in the program was designed to bring out both the employee's strong points and the areas in which he needed improvement. Consequently, supervisors tended to use the interview to offer constructive criticism. They said that this approach worked fairly well with younger employees but that older ones and those in higher job classifications tended to resent it—in fact, in such cases, the interview often did more harm than good.

The employees, on the other hand, declared that they did not resent constructive criticism as such—as one man put it, "I want to know it if I am doing a good job, and if I am doing a bad job."

Nevertheless, they did resent certain approaches supervisors sometimes used. They did not think that a supervisor should wait until the interview to criticize a man's performance—he should make suggestions and criticisms at the time the situation calls for it. They also objected to the supervisor's referring to faults that had previously been discussed and corrected—this, they said, just "opened up old sores." (Incidentally, the supervisors agreed with both these points, and said that they avoided such practices.)

Here is a real problem area and one that is likely to persist as long as the interview is used by the supervisor to initiate a discussion of the employee's shortcomings.

There seems no doubt that we must de-emphasize the traditional one-way criticism in favor of two-way communication during the appraisal interview. This means, of course, that a supervisor should try not to be defensive when an employee disagrees with him in the interview.

"I want to know if I'm doing a good job — and also if I'm doing a bad job."

Fairness and impartiality

The supervisors thought that the fairness and impartiality of appraisals were of major concern to their employees. It was impossible, they agreed, for a supervisor to eliminate favoritism and bias completely in appraising his men. Nevertheless, they felt that by and large, the vast majority of supervisors do a careful and conscientious job. Very few supervisors, they thought, would deliberately give an employee a low rating just because they didn't like the man personally.

The employees' comments showed that the whole question of fairness and impartiality was of major concern to them. Nearly all of them said, however, that their own supervisors had been fair with them in the past and that they did not really anticipate unfair treatment in the future. Still, they manifested some uneasiness about this question. Apparently, they did not see any real protection against the *possibility* of unfairness; hence the feeling of uncertainty and insecurity shown in these comments:

► "Employees are worried about the objectivity and impartiality of supervisors. They're afraid that the supervisors may put something on the report that will be held against them."

► "A third person should sit in on the interviews as an impartial observer to be sure the employee gets a fair hearing."

► "If a supervisor is fair and honest, the appraisal program is good.

WHAT THEY SAID:

► **About the importance of supervisors' opinions—**

Supervisors: Appraisals and interviews are unnecessary because employees don't care what the supervisor thinks of them.

Employees: They respect the supervisor's position, opinions. They feel they work better, have greater opportunity if they get along with the supervisor.

If he is not fair and honest, it is useless."

After a thorough discussion of the entire appraisal and interview program and its mechanics, the employees felt much better about this point. Perhaps this particular problem was caused, at least in part, by our failure to explain the program in detail to employees at the outset.

"We're not sure supervisors are objective."

More information

The employees unanimously expressed a desire and need for more information of this kind. Their comments showed that misunderstandings about the program were fairly widespread:

► "Everything about the appraisal program has been so secretive in the past that it has caused employees to be suspicious and afraid of it."

► "Employees need more information about the appraisal program. The more they know about it, the better they will accept it. I've learned more about it in this meeting than I had ever known before."

The supervisors' comments indicated that they, too, needed more information about the program's objectives and what management expected them to accomplish with it.

Supervisors want appraisal interviews, too

Finally, it was interesting to compare what the supervisors thought their employees felt with their own attitudes toward being appraised and interviewed by their superiors. Invariably, the supervisors said they wanted and needed periodic and private discussions with their own bosses. By and large, they felt that this should be done at least annually.

Thus, both the supervisors and their employees manifested the same needs, but the supervisors often failed to recognize the existence of these needs in their subordinates.

Can the information we gained be applied to other company situations? We think that our findings offer, at least, some points of departure.

WHAT THEY SAID:

► **About the employees' acceptance of criticism—**

Supervisors: Older employees resent criticism; therefore, interviews do more harm than good.

Employees: They welcome constructive criticism; feel, however, that supervisors shouldn't wait for a formal interview.

WHAT THEY SAID:

► **About the fairness and impartiality of appraisals—**

Supervisors: Fairness is important to employees. Supervisors try to be fair, but feel it's impossible to eliminate all bias.

Employees: Fairness is extremely important; supervisors are fair. But employees are uneasy about the *possibility* of unfairness.

It's inevitable

For example, it was clear that the program itself suffered from inadequate communication and lack of understanding between many supervisors and their employees. But just as clearly, the study brought out the fact that employees do feel an acute need for better relationships with their supervisors, and that they regard the appraisal and interview program as one means of helping to achieve this end.

There was no evidence that employees resented the appraisal program as such. They recognized that appraisal was inevitable—the only question was, what was the best way of doing it? They were strongly in favor of a formal, systematic procedure, applying recognized standards.

Similarly, the supervisors were not opposed to the idea of appraising employees, discussing the appraisal with them, and trying to get them to agree on their future goals.

Undoubtedly, both supervisors and their employees would benefit from freer and more flexible interviews. Employees need both the opportunity and the encouragement to express fully what is on their minds; they need to feel that their supervisors are receptive and open-minded. However, we found no evidence to suggest that communicating the appraisal to an employee in a straightforward manner was necessarily incompatible with the aim of favorably influencing his attitude and behavior.

Status and support

Another factor that emerged from discussions with supervisors was the complex nature of their attitude toward the appraisal and interview program. To a supervisor, performance appraisals and interviews are a key phase of his relationship with his employees. His view of this relationship is interwoven with many of his other job attitudes. For example, the question of status invariably came up. It was clear that a supervisor's perception of his status affects the way he conducts interviews.

"We need more information about the appraisal program."

Now status is determined in part by the tangible support, or lack of it, given to supervisors by higher management; but it is determined even more by what the supervisor considers to be the effects of this support in terms of the prestige attributed to his position by his employees.

An example is the discussion of whether performance appraisals and interviews actually were useful in motivating employees to perform better. Whenever this question came up, someone was sure to say that the supervisor was no longer able to motivate many employees because of the seniority clause governing promotions that had recently been included in the union contract. This remark usually sparked a more general discussion of the three dominant forces within the organization —top management, union, and supervisors—and where supervisors fitted into this pattern. It was evident that the conditions and forces within the organization that defined the supervisors' role could not be separated from the problems they faced in carrying out the appraisal program.

A matter of climate

One clear finding from our study is that no appraisal program—nor any other management activity—can be considered in a vacuum. Even if the program is perfectly designed, its effectiveness will be powerfully influenced by background conditions in the company.

But problems of climate should be solved, not shelved—and an appraisal program is in itself one step toward improving the climate. Among our employees the vast majority—regardless of status or of length of service—felt that they needed both regular appraisal by their supervisors and an appraisal interview. ◆

STARTING NEXT MONTH:
A NEW SERIES

Are you convinced that employees want appraisal interviews? If so, you'll be interested in the three-part series, *How Am I Doing?* starting next month in SM. The series offers direct, practical suggestions for: 1) getting ready for the progress interview; 2) conducting a two-way interview that will bring results; 3) handling special cases—the person who's failing, the one who won't talk, the one who agrees too quickly with whatever you say. The series will, we hope, help readers to plan appraisal talks with their subordinates.

A Joker Can Be a Leader

THE PERSON WHO IS WITTY, and even sarcastic, may be more likely than others to have serious and positive leadership qualities, according to a research study conducted by two psychologists.

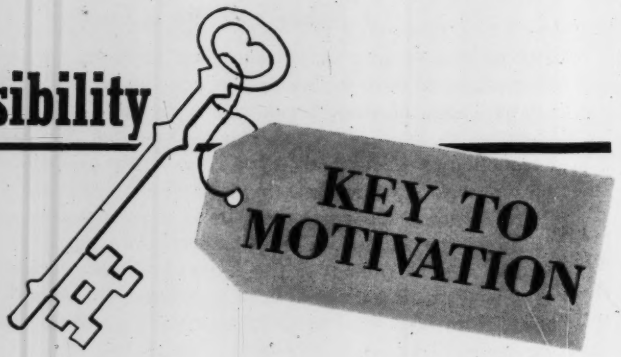
Ewart E. Smith, of Psychological Research Associates, Inc., and Jacqueline D. Goodchilds, of the University of Delaware, observed 85 supervisors who were taking a short management-training course. They recorded the number of times a person said something that made the majority of his fellow supervisors laugh. Another tally was kept to show how many of these jokes involved sarcasm and ridicule. Half of the men and a quarter of the women—32 in all—made one or more funny remarks, some of which the psychologists classified as sarcastic.

The psychologists noted how the members of the training course did on other psychological tests that measured leadership, and then studied the subjects' own views of themselves. When the group was asked to assess which of their members they would consider leaders, the jesters turned up more often than the "serious" participants.

The psychologists concluded: "Thus, wits, contrary to popular belief, were seen as taking more roles as leaders . . . sarcastic wits were even more important group members."

Also, the jokers felt stronger and happier about their own personalities than did the more straight-faced members of the management class.

Responsibility



By Frank J. Mikel
Industrial Engineer, Whirlpool Corporation

Is "satisfaction" enough? Or do people respond even more to work that challenges their abilities?

THE ABILITY to make a profit is considered a measure of the performance of men who manage. But in a larger and more meaningful sense, it is also a measure of the performance of all the employees of a business. This fact presents management with its greatest challenge—how to get men to achieve peak performance.

One way, of course, is to drive them to it. But, fortunately, social changes have largely eliminated fear as a motivating force in our economic system. The question is, what can be substituted?

In *The Practice of Management,* Peter Drucker has suggested that fear be replaced with responsibility. But how do you get people to accept responsibility?

Keep people happy?

Our realization that fear no longer supplies adequate on-the-job motivation has led to an overconcern with "employee satisfaction" as an alternative driving force. This preoccupation with keeping people "happy" has caused us to rationalize that "Employees don't want responsibility," or "Responsibility is something to be avoided." In using these clichés, aren't we abandoning our obligation to develop a sense of responsibility throughout the organization?

It may well be that what looks like an employee's resistance is actually a reflection of a highly developed sense of responsibility. He rejects the demands for responsibility because he sees the inadequacy of

the tools and information given him to meet those demands. A good manager wants to be "in the know" before he acts. How, then, can he expect the employee to accept responsibility unless he, too, fully understands why it is demanded?

Contentment—or responsibility?

Instead of *commanding* responsibility, management must *develop* it —a process that is by no means to be equated with developing more satisfied employees. *An employee can be completely "satisfied" without having the slightest awareness of his personal responsibility for the failure or success of the company.* Many studies have shown that contentment and high production do not necessarily go hand in hand—though it must be added that unhappy workers don't make for record-breaking production figures, either.

It is all to the good that companies now provide safe, orderly workplaces, recreation programs, medical services, group insurance, pension plans, and the like. But these benefits should be regarded as complementing—not replacing—the satisfaction to be derived from work itself.

Challenge for improvement

Loyalty and enthusiasm are generated in a work environment that presents increasingly challenging work assignments. This was one of the most striking findings of a three-year study of management development by General Electric. Harold F. Smiddy, vice-president of G.E.'s Management Consultation Service, has reported: "One of the most curious yet possibly most obvious findings of the study was that continual, but fair and realistic, raising of the standard of what is considered adequate performance is in itself a potent spur to a climate of improvement."

It is futile, of course, to insist on high standards of performance from workers if management is mediocre.

The Tools of Responsibility

Peter Drucker, in *The Practice of Management*, suggests these means of developing a sense of responsibility in employees:

1. Careful placement.
2. High standards of performance.
3. Giving the employee information to work with.
4. Providing opportunities for participation that will give him managerial vision.

If poor planning results in shortages of parts, if equipment breakdowns cause expensive waiting, if lack of tools results in poor work quality, the worker will wonder whether the company really does want him to perform better.

The means for understanding

Assuming that management's house is in order, the process of developing greater job responsibility at all levels entails first and foremost giving each employee a feeling of understanding his part in the enterprise. It is not enough to tell him that he is expected to turn out so many pieces per hour. He must be given also the means whereby he can control himself and bring intelligent judgment to what he does.

One reason for the success of the consultative approach to work simplification, for example, is that it supplies the worker with information that gives him the confidence that he can manage.

Work measurement can legitimately be used to measure work content. But it should not be applied so that it denies the worker all opportunity to use his unique human attribute—the ability to think, plan, and organize.

There is no doubt that almost any worker can exceed the average standard. If he fails, it is because the goal makes no demands on him as an intelligent person: As far as he can see, even if he exceeds the standard, all it means is another unit like the one he has just completed.

The meaning of work

Managers must find new ways of restoring some intrinsic meaning to work itself. Only by investing work content with more and more challenge can we hope to harness the unused energies and abilities that must come into play if the individual worker is to achieve peak performance in his job. ♦

Old Clothes Can Cause Accidents

OLD CLOTHES on the job pose a basic safety hazard, reports the Institute of Industrial Launderers. Workers who furnish their own clothes often wear garments they think have no further off-the-job usefulness. Ragged trouser cuffs, dangling shirt flaps, and other flapping clothing parts can cause falls by catching on loose projections. Injury to workers and damage to machinery are also possible if tattered clothing gets caught in machinery. Common clothing hazards are: dangling ties, missing shirt-cuff buttons, ordinary tears and rips, baggy trousers and shirts, and extra-long belts.

—*Industrial Relations News*
Vol. 9, no. 29

TAXING OBSERVATIONS . . .

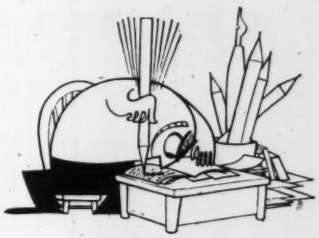
Of all debts, men are least willing to pay the taxes.

—EMERSON

LOGICAL DEDUCTION

Supporting him in such resplendent
Style, I think I am
Entitled to a new dependent:
Uncle Sam.

—GEORGIE STARBUCK GALBRAITH



Boni pastoris esse tondere pecus, non deglubere. (It is the part of the good shepherd to shear his flock, not flay it.)

—TIBERIUS CAESAR

Men prefer any load of infamy, however great, to any pressure of taxation, however light.

—SYDNEY SMITH

DOLLARS AND CENSUS

I sometimes brood in a darkling mood,
A little bit anarchistic,
On how it is *my* tax dollar that
Enables some busy bureaucrat
To shrink me to a statistic!

—GEORGIE STARBUCK GALBRAITH

To tax and to please, no more than to love and to be wise, is not given to men.

—EDMUND BURKE

LEADERS ARE MADE
. . . not born

Leaders come in all shapes and sizes—but they all learn certain essentials of leadership.

DID YOU EVER watch an expert skier weave with perfect timing through the intricacies of a slalom race? Have you ever seen a machinist grind a steel bearing to a tolerance of .001 of an inch?

Neither of these men was born with these skills. They developed them by combining their own natural capabilities with specific techniques which they perfected by constant practice.

In the same way, leadership skills can be developed. Your success as a supervisor calls for the blending of your personal capacities with sound leadership principles, continually applied.

There's no "ideal" man who just naturally becomes a leader and reaches the top. All sorts of people make good leaders.

Let's consider three leaders who differ widely:

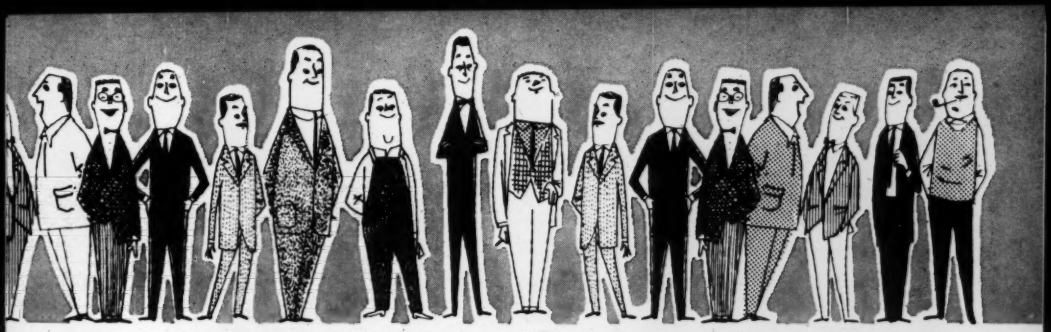
Tom is big and friendly, admired as a "regular guy." He knows each of his men personally . . . goes to bat for them . . . kids them out of bad moods . . . likes to spend time with them, both during and after working hours. They cooperate with him and back him up, because they *like* him.

Dick is serious and soft-spoken, highly respected for his technical skill. He's no good at small talk and jokes, the way Tom is, but everyone knows he's fair, sincere, and very competent. People listen to him because they *respect* him.

Harry is a go-getter. He does more in a day than most men do in a week. Full of physical energy, he drives himself hard and enjoys every minute of it. His men think he's great. He *stimulates* them.

Making the most of abilities

Despite their obvious differences in personality, Tom, Dick, and



Harry are all good leaders. Why? Because each knows how to make the most of his personal capacities.

Oliver Wendell Holmes once attended a meeting at which he was the shortest man present. "Doctor Holmes," a friend chuckled, "I should think you'd feel rather small among us big fellows."

"I do," answered Holmes. "I feel like a dime among a lot of pennies."

Holmes had discovered the secret of accepting himself, of exploiting *what he was.*

You can improve your leadership ability only if you understand the personal equipment available to you—your limitations and your potentialities. Don't try to force yourself into a role that makes you feel awkward and uncomfortable. Remember that there's no rigidly "right" or "wrong" way to be a leader—and that people are quick to spot a phony.

Studies by universities and survey groups indicate that the best leaders—despite their many differences in personality—*do* have certain characteristics in common, which helped them reach the top.

Some of these characteristics may be natural to you; some may have to be developed through effort. They offer a framework on which to build a solid set of leadership skills.

Let's examine each characteristic in detail.

Bringing out the best in people

Consider the case of two office managers. It's almost quitting time on Friday afternoon, and each is faced with an unexpected assignment: The company has received a last-minute opportunity to submit a bid on a big government construction project; but in order to make the deadline the company must have all the estimates and relevant paperwork ready for filing by the next morning. Winning this contract will enable the company to expand, bringing greater job security and opportunities for personal advancement to its employees.

Jones hands the work to his typ-

This article is adapted with permission from "Made . . . Not Born," a pamphlet which forms part of a training program for industry offered by the Mutual Benefit Life Insurance Company, Newark, New Jersey.

ists and issues the necessary orders in curt tones. When a few of the women grumble, he reminds them that they're being paid overtime. Angrily, he strides back to his office and slams the door.

Smith hands the work to his typists and explains the deadline emergency. He also points out how the company and employees will benefit if the contract bid succeeds. His staff feels that they're in on company developments.

In both instances, the work will be done; but which supervisor will get the *best* work and the most cooperation? Which will be able to rely on his subordinates when future crises arise?

A basic function of a good leader is to inspire people to their best efforts. The man who concentrates only on details, on cost figures, on technical matters, may become an expert—but not a leader. Experts know what should be done . . . leaders know what should be done *and how to get people to do it.*

Essential to your success in this area is your ability to:

Take an interest in your subordinates. Are they working at jobs best suited to their individual abilities? Do you know anything about them personally—what their problems are, what makes them tick?

Communicate clearly. Are your orders and instructions easy to understand? Do you avoid unnecessary snags by explaining matters carefully in advance? Do your subordinates know *why* they do things, as well as *what* they are doing?

Use sound training methods. Can you train your subordinates to carry out their duties efficiently, to take on *new* duties? Are you patient about breaking in a new man? Are you familiar with the latest training techniques and directives in your company?

Handle grievances fairly. Are you close enough to your subordinates to be able to spot trouble before it comes to a head? If a man is obviously upset or angry, do you take him aside and let him get it off his chest? When a grievance arises, do you side-step the problem or try to clear it up as quickly as possible? Are you careful to give reprimands *in private?*

Keep morale high. Do you encourage team spirit? Do you compliment a man when he rates it? Do your subordinates have a feeling of belonging, of being needed on the job? Are they briefed on the overall picture? Do you act promptly to kill false or potentially dangerous rumors?

Awaken enthusiasm. Do you make your subordinates *want* to do their best? Do you encourage their desire for advancement? Do you try to give them a sense of pride in the job, the company, and the product? Do you help those who want to learn new skills?

Everyone needs a feeling of personal worth and the knowledge that he's appreciated. The ability to re-

spond to this need and bring out the best in each individual and each group is the mark of a good leader.

Getting things done

The "busy guy" isn't always the most efficient one. Some men are like Fourth of July pinwheels—they whirl with a lot of noise, but they never really get anywhere.

Did you ever start out for a meeting, run back to make out a work order, stop on the way to speak to someone, leave him to answer the telephone, interrupt the phone call to dictate a memo? If your workday seems to be one long rat race, perhaps it's because you're letting your *job* run *you,* instead of the other way around.

Here are some suggestions to help you improve your ability to get things done:

List all your job duties. Jot down your daily tasks, plus those that come up periodically or irregularly. List them in their order of importance and, if possible, figure a time allotment for each.

Make a weekly timetable. Plan your week ahead of time, if you can. Itemize what you expect to accomplish from day to day. Use the timetable as a progress guide and revise it as required.

Streamline your personal contacts. Don't waste too much time in idle conversation or allow your meetings to stray from their original subject. Train yourself to communicate simply and clearly—to *get* to the point and *stick* to the point. Use your phone for communication—not small talk.

Jot it down. Don't trust yourself to remember everything that comes up during a busy day. Write memos to yourself as well as others. They'll often come in handy.

Delegate work to subordinates. Make effective use of the help available to you. Train your subordinates to handle new tasks. It eases your work load and aids in their development.

These guideposts should be adapted to your own personal situation, not followed so rigidly that your flexibility is hampered.

Ambition and self-confidence

A good leader doesn't shy away from responsibility or hard work, and he doesn't quit when he's faced with unexpected obstacles. The mental fuel that motivates him is a continuing eagerness to grow and improve on all levels. But a successful leader is also realistic about his goals. He doesn't waste time reaching for the moon.

Self-confidence is an indispensable asset to a good leader, because it communicates itself to others. People respect the man who *genuinely* knows what he's doing. That's why it's important for you to develop your potentialities so you can base your confidence on fact rather than on fancy.

Here are some suggestions to help increase your self-assurance:

1. Take a mental inventory of your recent accomplishments and your assets as a leader. (It's good for your morale.)

2. Pick one personal deficiency or weakness and go to work on it.

3. Enlarge your store of information about the company and about your field. Knowledge builds confidence.

4. Tackle an assignment you once considered too tough.

5. Check your personal appearance. You're a leader—look the part!

Ability to cooperate

The ability to cooperate goes hand in hand with the ability to bring out the best in people. A good leader must know how to cooperate with those *above* him and those *below* him so that he can do his job properly. No pat formula can fit every situation, but there are ways to be cooperative and stimulate cooperation in others:

Use commands sparingly. Avoid orders like "Do this!" "Stop that!" or "Do it this way!" Curt commands provoke resentment. Use them only in cases of flagrant laziness, insubordination, or emergency.

Request—don't demand. Try saying, "Let's do this," or "I'd like you to do that." Ask for suggestions from your subordinates when you think they'll be helpful. You might ask, "What do you think ought to be done here?" or "How would you tackle this?"

Show respect for your associates. Your superiors and your subordinates are *equally* entitled to your respect. Show the same consideration that you would like to receive. But don't fake interest—insincerity is easy to spot.

Show faith in your subordinates. Organize, delegate—then step aside. Be as discreet and unobtrusive as possible. Don't oversupervise by checking constantly on every little detail.

Encourage subordinates to speak out. Welcome suggestions and prompt your subordinates to think creatively. If a man's work is slipping, draw him out to learn what his problem is.

Express your approval. Compliment those who rate it—in public. But use your praise judiciously. Too little, and it's missed. Too much, and it's cheapened.

Act fairly. When work is being assigned, or compliments are in order, don't play favorites. In disciplinary situations, be objective and impartial.

Decisiveness

A leader is a man who *makes decisions*. Sometimes they turn out right and sometimes they turn out wrong; but either way, he *makes* them.

Supervisory decisions often must be made quickly. Does this mean that you're doomed to failure if you're not the type who can jump to rapid conclusions? Not at all.

TO BRING OUT THE BEST IN PEOPLE . . .	
DON'T	**DO**
Use your position of authority to browbeat others.	Show respect for your subordinates. (They'll return it.)
Show partiality or favoritism.	Treat everyone equally and fairly.
Bicker when something goes wrong.	Concentrate on removing the cause of the error.
Bawl out a subordinate in front of his associates.	Show regard for his feelings. Do your reprimanding in private.
Issue vague or garbled instructions.	Think it out beforehand, so that your instructions will get across clearly.
Hoard credit—or compliments—when they come your way.	Pass them on down to your staff. They've earned them, too.
Try to shift the blame on others if something goes wrong.	Be big enough to admit your mistakes.
Complain about your subordinates, or "run them down."	Have faith in them. Go to bat for them, when the occasion arises.

Good decisions are seldom arrived at haphazardly. They are based on sound problem-solving techniques.

Here are six guideposts to help you grapple with the tough ones:

1. Make sure you understand what you're actually expected to decide.

2. Get all the background information you can on the problem.

3. Call on your associates for help—especially those with specialized training in the area involved.

4. Check your thinking to make sure that your attitude is free from personal bias and irrelevant emotional factors.

5. List all your possible decisions —and analyze carefully the probable consequences of each.

6. To provide helpful precedents, review the results of past decisions.

Once you've made a decision, announce it as soon as possible and don't be afraid to back it up. A leader must have faith in himself

and the courage of his convictions. On the other hand, he must be flexible enough to admit his mistakes when he's been proven wrong.

Another attribute of a decisive leader is the ability to take disciplinary action. Every now and then it may be necessary to crack down on a troublemaker. Being lax and slipshod in this respect is just as bad as being harsh and vindictive.

Mental alertness

At one big manufacturing company, a worker spent all his time punching small holes in parts as they came off the production line. His supervisor finally became curious about this operation. He discovered that the holes hadn't been needed for many years—ever since a major design change. Because nobody had brought the blueprints in the department up to date, these holes had been punched needlessly in 800,000 parts every year! Thanks to the supervisor's alertness the operation was discontinued and the employee shifted to useful work.

Is there any possibility that something like that could happen in your department? It's easy to grow a little lax, to get accustomed to the same old routine.

Good leaders can't afford comfortable ruts. Company responsibilities, pressure from competitors, personal advancement—all these mean that supervisors must maintain a questioning attitude.

Here are some suggestions to help you develop your mental alertness on the job:*

Keep up to date in your field. Put your name on the mailing lists of equipment manufacturers. Join professional and trade associations. Visit trade shows. Question sales engineers about their products. Start a personal file on new methods, new machinery, new ideas.

Study trade magazines. Read a few good technical journals and management publications. Make mental notes and clip out items of interest.

Take advanced courses in your field, if possible. Don't shy away from extra training; learn all you can about the methods in your field. Above all, cultivate your ability to think.

Check yourself

To get an idea of how well you're doing on these six major leadership skills, rate yourself on the check list provided here. If you find you've checked more than nine "Often" squares, you may have a real problem. Between three and nine shows there's room for improvement. Less than three means you're doing fine.

Go to work on any weaknesses revealed by the check list. After a month, rate yourself again. Your progress will be clear proof that leaders are indeed made . . . not born. ♦

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* For further details, see *It Takes Know-How to Be a Manager,* by Raymond Dreyfack, in SM, February, 1960.

CHECK LIST FOR LEADERSHIP

	Today			One Month Later		
	Often	Occasionally	Never	Often	Occasionally	Never
1. Ability to bring out the best in people						
a. Do my subordinates gripe when they are confronted with extra or overtime work?	☐	☐	☐	☐	☐	☐
b. Do jobs go wrong because my instructions are misunderstood?	☐	☐	☐	☐	☐	☐
c. Do personal feuds cause friction among my subordinates?	☐	☐	☐	☐	☐	☐
2. Ability to get things done						
a. Do I snow myself under with extra work over the weekend, or at night?	☐	☐	☐	☐	☐	☐
b. Am I behind schedule on completing assignments?	☐	☐	☐	☐	☐	☐
c. Do I tend to forget appointments and conference dates?	☐	☐	☐	☐	☐	☐
3. Ambition and self confidence						
a. Do I side-step extra assignments?	☐	☐	☐	☐	☐	☐
b. When problems arise, are others on my level consulted ahead of me?	☐	☐	☐	☐	☐	☐
c. Do my personal problems hamper me in doing my job?	☐	☐	☐	☐	☐	☐
4. Ability to cooperate with others						
a. Do I delegate work to others and then check on them every minute?	☐	☐	☐	☐	☐	☐
b. Do I create resentment when I give orders?	☐	☐	☐	☐	☐	☐
c. When a problem arises, do my subordinates shy off and leave it completely in my lap?	☐	☐	☐	☐	☐	☐

(continued on next page)

	Today			One Month Later		
	Often	Occasionally	Never	Often	Occasionally	Never
5. Decisiveness						
a. Do my decisions cause a lot of grumbling?	☐	☐	☐	☐	☐	☐
b. Are my decisions misinterpreted?	☐	☐	☐	☐	☐	☐
c. In making decisions, do I rely primarily on hunches?	☐	☐	☐	☐	☐	☐
6. Mental alertness						
a. Do new developments in my field catch me by surprise?	☐	☐	☐	☐	☐	☐
b. During technical or professional conferences, do I find things over my head?	☐	☐	☐	☐	☐	☐
c. Do I depend on others to bring me up to date on company policies and directives?	☐	☐	☐	☐	☐	☐

IMPROVING PRODUCTIVITY

Step 1: WORK MEASUREMENT

By Ernest Schleusener

The first step toward improvement is to check on the performance of your group.

ACHIEVING TOP PRODUCTIVITY is, of course, the goal of every supervisor; it's his contribution to the company's income. Productivity is also a particularly important area for improvement; for, no matter how hard you try to cut costs, it won't do any good unless you either maintain the necessary output or increase it.

Not everyone can be a top producer; but everyone should come close to the group's average performance. If there are people in your department who are producing below average, then obviously your unit costs will be higher than they should be.

Before you can try to cut these costs by improving productivity, you first need to know what your work group's average productivity is. Then you can spot the low producers, and work on improving their performance. And that means measuring the productivity of every worker in the department, as accurately as possible. From there, you can apply your efforts where they are most needed.

What you measure

Your measurements should include the number of units produced in a given time, the quality of the output, the employee's work speed,

and his attitude toward productivity. Comparing each employee with the group on each of these points, you can then make an over-all rating, and, finally, suggest action to be taken to improve the productivity of a below-average employee. This information can be summarized on the Performance-Rating Chart on pages 32 and 33.

Starting the study

The first step in work measurement is to select a group to be measured. For the sake of accuracy and speed, you should start with a small group—usually six people, but not more than twelve. As your proficiency in measurement increases, you may increase the size of the groups. But you can work faster if you keep your groups small, and study only one group at a time.

Be sure that the work of the group you are studying is uniform, so that you can make comparisons. Pick a group of operators who do the same kind of work, or whose equipment is similar. If the work of two or three people is related, but not similar, to that of the group, study them separately. In an office study, for instance, you wouldn't include a keypunch operator in a group of posting clerks.

The longer the period of measurement, the better; a week is the minimum for each group, but a month will give more accurate results. You should discuss the format and measures you plan to use with your boss, or with your company's industrial engineer, to get the benefit of another person's thought and experience.

Measuring quantity

The study should begin with a measure of quantity. The quantity measure is the amount of output produced in a specific period of time. If your company has established work-measurement procedures, you should, of course, use them. Or, if production standards are already set, you can compare your group's productivity against them. If, however, you have no established procedures or standards, you will have to do your own measurements and use the group average as your standard.

The measure you choose will vary with the conditions of the job. In the first place, you can determine the productivity of an individual only if his work is separated from the work of others. If a person is working on a production line at a fixed pace, of course, his only measure would be the speed of the line.

But more likely, there will be a measurable amount of work that is being turned out by each person being studied, like the number of orders entered, delivery rounds made by a mail clerk, assemblies completed, within a certain time.

The period of time for which work is measured will also depend on the nature of the job. Machine repairs might best be calculated by

the day; stampings made, by the hour.

Handling variables

If the job units vary in size—for example, if there are variable numbers of items on orders being entered—you would need a more detailed measure than the number of orders. You would measure the number of items entered on each order.

It might, for instance, take four minutes to enter an order for one carload of calcium chloride, but nine minutes to enter an order for twelve single drums of different paint solvents.

If the work varies in complexity, the same rule applies. An engineering department, for example, might produce drawings of four steps of complexity; the supervisor might allow twice the time, if appropriate, for each increased step. A one-square-foot drawing of a simple part might take an hour to produce, while a complicated drawing of the same size could require a full eight-hour day. Therefore, the man producing the latter should be credited with eight units of production, rather than one.

If the cycle for completing a single unit of work is long—say, days or weeks—you must establish bench marks. First determine the total number of hours required to complete the project. Then determine when the project is, say, one-quarter, one-half, and three-quarters completed. Or, if it would be more appropriate, choose clearly defined stages in the project. Finally, measure the time it takes each worker to reach these bench marks. Remember that these measures are only approximations for comparison. Fur-

WHAT TO MEASURE

Here are four factors that determine an employee's productivity. Each one is dependent on the others.

1. **Quantity:** The amount of output produced in a specific period of time. The units to be measured and the period of time depend on the nature of the work.
2. **Quality:** Work that meets established standards. Can be expressed as ratio of substandard or above-standard work to standard work.
3. **Activity speed:** How fast a man works, regardless of efficiency. Indicates *potential* for high productivity.
4. **Attitude:** Whether or not a person is production-minded. After measurements are made, reasons behind attitudes should be investigated.

thermore, although many jobs can be measured in this way, there are some that simply cannot be measured because they involve too many variables.

Look for the big variations

In your measurements, use round figures; you should be looking for the big variations at this point. If 26.3 units are completed in an eight-hour day, call it 26 units.

In calculating your standard, don't allow for trouble or delays. Let's say that it usually takes six minutes for a clerk to type a purchase order—but when certain information is not available, it takes from ten to twenty minutes. Don't average in the unusually high figure; instead, have the employee keep track of the number of orders on which he encountered trouble, and the time he lost. This information will give you an opportunity to make improvements; you would not notice trouble spots if the time spent on them were buried in the allotted time for the task.

Your measurements can usually be improved and refined as you use them over a period of time. Remember that you are not looking primarily for the small variations; it's the large ones that afford the greatest opportunity for improvement. When you have taken care of them, you can go on to the smaller ones.

Measuring quality

Productivity is not only the amount of work turned out; it's the amount that meets established standards of quality. Often, quality problems cause low productivity.

During your study, then, keep an account of any substandard work, including work that has to be done over again. Also make note of any work that is considerably above your quality standard.

But remember that there's a point of diminishing returns when it comes to quality. The time that can *profitably* be used to produce nearly perfect quality must depend on how important it is to maintain that quality level. If the end result of the operation is to be rechecked at some later point, or if a certain degree of substandard work won't affect the acceptability of the end product, then there's no point in spending extra time on quality. But if the safe use of the product depended on perfection, the extra time would be warranted.

For instance, it's necessary to polish the inside of a bearing race for an aircraft control lever. It *isn't* necessary to spend the same amount of time polishing the inside of a clock case—which doesn't affect the function or the appearance of the clock.

Quality measurements can be expressed in terms of percentages; for instance, one man's output might be ¼ per cent substandard, while the established requirements allow for 2 per cent substandard work.

Again, look for the large variations in quality. They will be a signal that there is a trouble spot where your spending some time and

Steps in Work Measurement

1. *Select the group* to be studied. Keep it small; be sure its work is uniform.
2. *Determine the measures.* Use uniform units of work. Plan to study each group at least a week—preferably a month.
3. *Measure each employee's performance.* Use round figures; look for the big variations.
4. *Study the group's averages, and make an over-all rating for each employee.* Enter your findings on the Performance-Rating Chart, pages 32-33.
5. *Follow through.* Recheck any group whose performance is low.

effort can yield real dividends in improved productivity.

Measuring activity speed

A third measure is the activity-speed rating. This is a measure of how fast a man works, regardless of his efficiency. It may well be a clue to abnormally low output or poor quality. The speed rating is a gross measure; you observe each person you are studying daily, to determine if his over-all activity is generally *slow, average,* or *fast.*

A fast speed rating, however, is not a measure of high productivity, although it does indicate a man's *potential* for high productivity. Your fastest worker may be wasting motions—and potential output.

A supervisor in a Boston manufacturing plant found that a man who had been speed rated the fastest setup man in the department was actually making fewer setups than the department's average. During his study, the supervisor found that the man was making too many trips a day to the tool crib—moving fast, of course. Another man in the department, who seemed to move much more slowly, completed many more setups. His supervisor discovered that, by loading all his tools for a setup on a dolly to bring back to his work area, this man made only one trip to the tool crib for each job. When the supervisor discovered the first man's problem, he and the employee worked out a more efficient method of getting supplies, and the worker's performance improved 28 per cent.

In your speed rating, don't rely on your past judgment, or on a single day's observation. A person's speed rating may vary from day to day because of varying conditions, or even

PERFORMAN

Employee's Name	Output Quantity	+ Avg. −	Output Quality	
Name, job, clock number of each employee in study.	Output of each employee. (Be sure to use same measure for all ratings.)	Rate quantity + (above average); Avg. (average); or − (below average).	Quality of work performed during rating period. (Per cent of rejects or above-standard work.)	Rate +; A
sample Bill Cary #1621	3/22 - 65 3/23 - 60 3/24 - 40 3/25 - 43 3/26 - 73	—	no rejections 6 corrections made on week's work (over 2%)	

Rated By: _____ **Date:** _____

E-RATING FORM

Rating Period _____

g.	Speed Rating	Attitude Toward Productivity	Over-all Rating	Proposed Action
quality .; or —.	Is employee working at slow, fast, normal speed?	Consider attendance, steadiness, attention, willingness, and adaptability.	Rating on all points combined.	What do you propose to do as a result of this study? Is another study necessary?
			Rating Period 2/22 - 2/26	
g.	average on 3 days; slow on Wed. + Thurs.	seemed to be away from job too much on Wed. + Thurs.	definitely below average during 2 days of week	study why condition exists. Is problem in work load?

ction Approved By: _____

changes in his own attitudes. It's essential to base your judgment on several days' observation of the speed with which he moves, walks, lifts, or performs his operations.

Attitudes and productivity

Productivity can depend on a worker's attitudes. When a person who is production-minded encounters an obstacle, he either removes it or tries to keep going by working around the delay. He looks for help from his fellow workers, and is quick to notify the supervisor if he's having difficulty he can't handle. The man with a good attitude toward productivity is usually the one who constantly looks for better ways to do his job, and who is ready to help other workers with their production problems. He is a man who gets things done.

In contrast, workers with unfavorable attitudes toward productivity may take advantage of snags in production. They may stretch out their work to fill the time, rather than looking for more work.

At this point, it's important merely to spot the situation, and not to try to improve the employee's attitude until the study has been completed. (Just the fact that he knows a study is being made may stimulate his interest and improve his attitude.)

The composite rating

Once you have reviewed the performance of each person in the work group, establish averages for the entire group. You can get numerical averages for quantity and quality; but your "averages" for activity speed and attitudes will have to be based on your subjective appraisal of the group as a whole.

The next step is to rate each employee's over-all performance on all points combined, rating it *average, below average,* or *above average.*

In over-all ratings as in the ratings on individual points, look for the big differences, not the minute variations. When there is a marked difference between above-average and below-average performance, you're in a position to make real improvements.

Following through

If you have found a uniform level of productivity in your first group, go on to the next group until you have studied your entire department. When you find a group with low performance, don't begin corrective action right away. Continue to study that group, for a longer period of time, to be sure that your findings are accurate.

When you've made all the measurements you need, and you have entered your findings on the Performance-Rating Chart, you will have pinpointed the problems that need clearing up, and you are ready to take steps to improve below-average productivity. ◆

This is the third in a series of articles on cost reduction. Part 4, coming next month, will discuss procedures for improving low productivity.

If there's a computer in your future...

By M. B. Smith
Vice-President and Group Executive
International Business Machines Corporation

. . . Here are some changes that may affect the work you supervise.

WITH AN ELECTRONIC computer, a leading automobile manufacturer can now change a production plan in hours. It used to take weeks.

This is just one example of how American management is revolutionizing business methods with computers. The electronic computer, used first by science, is now being widely employed by business. Use of computers has grown tremendously in the past decade. It was only after the close of World War II that the first entirely electronic computers appeared. Now, according to *Fortune*, an estimated 2,000 computers are being used by American business and government.

We are just entering the computer age. No one can really predict its future.

The rate of technological ad-

vance in data-processing equipment has astonished even computer engineers. Twenty-five years ago, we were proud of machines that could multiply a pair of eight-digit numbers in three seconds. Now we are seeking ways to improve a machine that will multiply a pair of thirteen-digit numbers in two millionths of a second.

The increasing use of computers by business means that all levels of management, from president to supervisor, are being helped more and more by electronic data processing.

How computers are used

Here are just a few of the ways computers are directly and indirectly used to help supervisors:

- In inventory control, not only are computers used to reorder automatically when stocked items are reduced to a certain level, but they can also automatically readjust to a higher or lower reorder level if the stock is used faster or slower than was planned.
- For office supervisors, computers are helping to provide timely cost-control and payroll information. Performance sheets are quickly prepared to keep the supervisor posted on cost data so that he can take action to correct any costs that are out of line.
- In manufacturing departments computers are used to break down production orders into component parts and subassemblies. Electronic data-processing equipment then computes what components are on hand, and which need to be made or assembled. The computer is used also to help prepare machine and assembly flow schedules.

The computer's past

If there is a computer in your future, you will be able to help your company get maximum use from it if you, as a member of management, understand what computers can and cannot do.

To understand what the computer can do today, let's take a quick look at its past. In 1946 a machine was completed which was entirely electronic in its internal operation. But technological progress had only begun. Besides increasing the calculating speed of computers, engineers developed improved "memory" devices for computers to store and remember fantastic quantities of information. Tapes, drums, cores, and disks—each magnetic—were introduced as storage devices.

Storage devices

Magnetic tapes, usually made of plastic or metal, have a coated surface of magnetizable material. Numerical and alphabetical information is stored in the form of magnetic spots on the tape. The magnetic drum uses a similar process of recording. If you were to wind lengths of magnetic tape side by side around the outside of a cylinder, you would have a magnetic drum, in principle.

Magnetic cores are minute rings of ferrite, magnetized by electric current. When strung on a complex of fine electrical wires, these cores are made into a high-speed memory system.

Magnetic disks are made of aluminum with a magnetic coating. They have data recorded on both sides.

Random-access memory

The development of these disks made possible an economical, large-volume random-access memory unit, consisting of slightly separated disks mounted on a central vertical shaft.

As its name implies, in a random-access memory unit, information can be quickly found at random without a search through all the records, thanks to electronic horizontal and vertical "read-write" arms.

Before the development of random-access memory, information had to be filed and processed in "batches" or large groups of data. This meant that information might be several hours or days old before it was processed. Today, the computer can work on processes *while they are taking place.*

For example, in a plant, a computer can accept information on the current status of orders, process it, and issue timely information used to reschedule work as necessary. The computer works in line with the problem at hand, instead of with older "batched" information.

Today computers are doing many difficult tasks, in three general areas: control, design, and simulation.

Control

By control, we mean feeding facts into a computer to get specific performance measurements. These measurements can be used as a basis for corrective action.

In the offices of a chemical corporation, a computer figures thousands of monthly cost sheets on hundreds of organic chemicals. The task used to take 15 working days; now it takes five days. Manual work is saved, but more important, management has vital cost information earlier and can take corrective ac-

The Challenge of Computers

Here are some of the areas that will keep managers on their toes as they work with computers:

1. *Training personnel* to operate and program computers.
2. *Coordinating work* with the computer manufacturer.
3. *Maintaining a "systems concept"*—considering a computer in terms of its function, and in relation to all the activities of the company.

tion on costs within the current month.

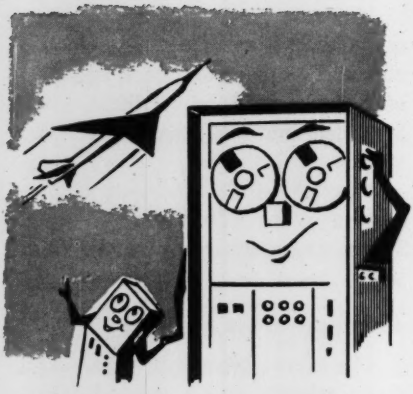
Design

Design is the second area of computer use. Computers can perform a variety of tasks at high speed. They can be instructed to test the results of intelligent guesses. Because of their speed, they can try out many guesses in a short time, and can check them with the specifications for the desired device. They can also be instructed to catch mistakes.

An automobile manufacturer uses his computer to help solve transmission and other design problems. Performance specifications, with instructions to compute several alternative designs that meet these specifications, are given to the computer. Now, automotive engineers can consider a wide range of possibilities, and can do a better job of coming up with the best possible transmission in terms of size, efficiency, weight, and simplicity.

Simulation

A third use of computers is simulation. Computers are used to test the results of numerous operating plans, usually expressed in mathematical form, and select the most productive one. A leading aircraft manufacturer uses his computer to simulate jet flights. The computer determines optimum combinations of payload, speed, fuel consumption, and requirements for runway



length under varying weather conditions, without a plane's ever leaving the ground.

Computers of the future

These are just a few examples of the use of computers today. In the industry's laboratories, research engineers are developing devices for computers of the future.

One example is a research project concerned with the intriguing question: Is it possible for the machine to recognize and respond to spoken language? In speech recognition, you have to identify each of the consonants, vowels, diphthongs, and other components of speech to be able to translate them into computer language. Some of the researchers have designed a device that allows them to study a particular short sample of the spoken word, subjecting it to statistical analysis to pin down the characteristics of the speech components. The future of this project is currently be-

yond our largest crystal ball—but the possibilities are fascinating.

Actually, the biggest computer problems of the future are generally in the area of application—or proper use of the equipment.

Training and coordination

First, there is the problem of training personnel to operate and prepare programs for computers. It had been mistakenly believed that these machines were so complex that only engineers, mathematicians, and physicists could operate and plan work for them. However, a number of companies have already proved that some of their own nonscientific employees can, with sufficient training, use the most advanced systems.

Second is the need for close coordination between the user and the computer manufacturer. A supervisor assigned to work with a computer should remember that the manufacturer wants to see it operate successfully. He is anxious to work closely with computer users.

The systems concept

Last, and perhaps most important of all, is the challenge of what we call the systems concept. If a supervisor works with a computer, he shouldn't think of it as a piece of hardware. If he does, he runs the risk of becoming "hardware happy" —overconcerned with tubes, diodes, transistors, and the like. Instead, he should concentrate on learning as much as possible about the many uses of the equipment so that he can help his company get maximum benefit from its investment. He should try to use this tool in every way he can to get more information faster. It's important that the supervisor consider the capabilities of the computer system in relation to all the requirements of his company. When he uses the computer, no matter what his field of action is, he should try to relate it to other activities of the company, for the computer can be used to help integrate all these activities into a smoother-running operation.

Alert managers consider data-processing equipment, not as a single piece of hardware, but as a system, or group of machines, designed to carry out the purposes of the entire organization. This is what we mean by the systems concept.

Want to Know When?

If you want to know when the newest developments in automation should be available for industry, read "Timetable for Automation," on page 56.

Can computers think?

Today, American management is putting data-processing equipment to work in more and more areas

of business, to relieve mankind of menial work.

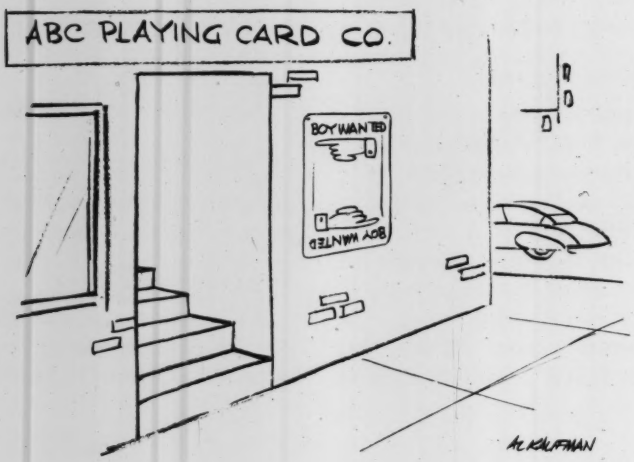
This includes some mental work —in a sense—and it brings us to a fundamental question: Can computers think? Will these machines take over from man some of his power of creative thinking? We in the computing industry believe that the answer is no, if by thinking we mean the exercise of creative reason and imagination.

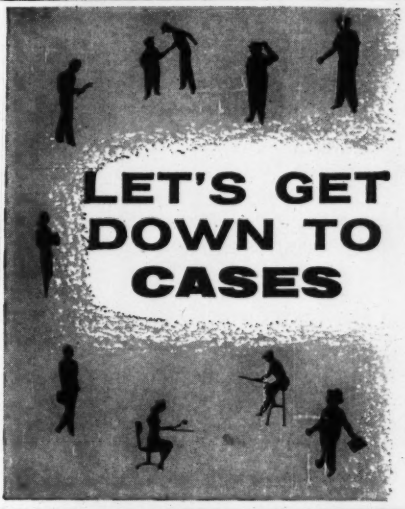
We consider these machines gigantic tools. If man has fine tools, he is upgraded, not downgraded. These tools will reduce the requirement for repetitive, noncreative thinking, but will certainly increase the opportunity for men to think along imaginative, creative lines.

Vannevar Bush, retired president of the Carnegie Institution and honorary chairman of the board of Massachusetts Institute of Technology Corporation, put it this way: "There is no reason why man should not relegate to the machine all those parts of his processes of cerebration which are repetitive in nature, or subject to exact formulation, thus freeing his mind for those processes which the human brain alone can encompass." ◆

How Computers Are Used

1. **Control**—feeding facts into a computer. Getting specific performance measurements, used as a basis for corrective action.
2. **Design**—of many items. Can try many guesses quickly, check with specifications to get desired device.
3. **Simulation**—testing results of operating plans, selecting the most productive.





Every month, SM presents true stories of tough situations supervisors have faced.

How would you solve these problems? Your answers and the steps you take in arriving at them can be of the utmost value to you.

As you consider each case, you might jot down your questions, your reasoning, your decisions.

Or, discuss the cases with a group of people—fellow supervisors, family, friends. You'll find that each person has his own way of looking at the problem.

Conflicting Personalities

The scene: A machine shop. The foreman, Pete, is checking with Jim, a machinist newly transferred into his department. This is just before lunch on Jim's first day.

Pete: How're you making out? It's a lot different from running a press over in stamping, isn't it?

Jim: My friend, a job is a job . . . and a press is a press. I've been running 'em ten years . . . not much difference.

Adapted from "Personality Conflict," one of a series of films, *Plant Supervisors' Problems*, presented by the Text-Film Department, McGraw-Hill Book Company, Inc.

Pete: Well, we're glad to get you over here, anyway. (He starts to walk off.)

Jim: Hey! (as Pete come back) I dunno if you're interested, but I got an idea how you can speed up this operation.

Pete: Oh?

Jim: Look . . . All these pieces vary just a little bit, right? . . . (He explains his idea.)

Pete: Well, Jim, you might have something here. We've been satisfied with the way things are, but . . . well, I'll check with tooling in the morning and see what they say.

Jim: You do that. Oh, uh . . . look, I don't want to complain. But you know something? . . . A guy wastes an awful lot of time around here scrounging his own material. Over in stamping they had a kid who did that. All this kid did was to go around and see if . . .

Pete: Wait a minute, Jim. We like it this way. We want every operator to sign for his own material.

Jim: O.K., O.K. . . . just trying to help. . . . Uh . . . there's one other thing. . . . It has to do with these counters. They never jibe with what's in the box. Makes it hard to figure the job ticket. Know what I mean?

Pete: (Pause) . . . Anything else?

Jim: I'll let you know if there is, Boss. You know me . . . helpful Harry.

Later, in the locker room:

Jim: I like an operation that's run right.

Charley: What are you talking about?

Jim: Nobody thinks around here . . . know what I mean? You tell 'em how to save time and money . . . and what good does it do? We just keep on doing things the same old way.

(Pete has walked in and overheard.)

Pete: What is this, Jim . . . a panel discussion on how I should run my department?

Jim: (not too flustered) No . . . not exactly . . . I was just tellin' the boys. . . .

Pete: Yeah, I know . . . I'd like to have *my* say at about 4 o'clock this afternoon . . . in the office.

In Pete's office:

Pete: We gotta settle a few things. . . . First of all, I want you to know there's nothing wrong with your work. You're a good pressman, and I'm glad to have you here. . . . It's always good to have an old hand around. . . . You know that. (Jim nods head.) But your attitude's gonna have to change! If you really have something worth-while to say, say it to me first. One thing I *won't* stand for is complaining to the other men about the way I run things!

Jim: O.K. . . . I'd like to say something.

Pete: Go ahead.

Jim: . . . without you gettin' sore about it.

Pete: Let's try.

Jim: I get the feeling that you don't *want* anybody to suggest anything because *you* didn't think of it. Does it bother you to have somebody around who knows something?

Pete: I have no objection to your ideas, good or otherwise. I don't like the way you *present* them and the noise you make when they aren't accepted.

Jim: (Slowly.) Well, why don't you have me transferred back to stamping?

In the personnel office:

Pete: That's it, Bill. That's the story.

Bill: What do you want to do about it?

Pete: Transfer him. Send him back to stamping. That's what he asked for.

Bill: I can't do that.

Pete: Why not?

Bill: For a number of reasons. They didn't want to let him go in the first place, remember? Now they've hired another man . . . they don't need him. What's more . . . you *do*.

Pete: Yes, as a pressman . . . not as a lunchroom orator.

Bill: Pete, don't you think this might be just a matter of adjustment . . . a personal thing?

Pete: He's been nothing but trouble since the first day I got him.

Bill: That's it! Right off the bat, you guys didn't click. Maybe it's all in the way you handle him. Why don't you get him to one side and talk it out?

Pete: I tried that. I just don't get through to the guy.

Bill: Well, the transfer is out. You wanted a man. We gave him to you. He's a good man. Sure, you've got a problem; but you've had problems before and solved them. You'll think of something. Let me know how you come out.

Consider these questions—and ask your own:

1. Why do you think Jim had so much to say on his first day in the department? Was he just trying to ride Pete? Could he have been resentful over the transfer? If so, how might Pete have handled it?_____

2. What about Pete's response to Jim's suggestions? The suggestions may or may not have been worth following—but in

any case, how do you think Pete should have received them? Why? _____

_____

3. When Pete overheard Jim sounding off in the lunchroom, should he have:

____ Ignored it? Why? _____

_____

____ Talked to Jim later, privately? Why? _____

_____

____ Called Jim on it right away—as he did? Why? ___

_____

4. If you had heard a similar scathing criticism of yourself by a subordinate, how would you have reacted? _____

_____

5. How would you have handled the talk in the office? _____

_____

6. Could Jim's request for a transfer have been foreseen? Why?

_____

7. If you were Pete, what would you do now? _____

_____

WIN A BOOK!

Send in your solutions to SM's cases—or send your most interesting case—for publication in SUPERVISORY MANAGEMENT.

The editors of SM will award the author of each published case or solution a copy of Leadership on the Job: Guides to Good Supervision, the American Management Association's handbook for supervisors.

Send your contribution to Let's Get Down To Cases, SUPERVISORY MANAGEMENT, *American Management Association, 1515 Broadway, New York 36, N. Y.*

Readers Discuss SM Cases

Here are readers' discussions of previous cases.

A copy of *Leadership on the Job*, AMA's handbook for supervisors, has been awarded to each of this month's contributors.

Didn't Anybody Do It?

(January, page 33)

Case synopsis:

At quitting time, Paul, an airlines ticket-counter supervisor, asks John, a representative, for a batch of tickets he'd turned over to John for processing earlier in the day. But the job has not been done. Paul says: "I asked you to divide them up among the group!" John retorts: "You asked me to pass them around." The tickets were "passed around" among the four representatives but nobody had time to do them. Surprised and angry, Paul declares the tickets must be delivered tomorrow morning. The whole staff will have to stay 40 minutes overtime to do them. It's clear that everybody is unhappy over this decision—and over the discussion that preceded it.

How could Paul have avoided the situation? If you were Paul, what would you do now?

Calm approach

TO THE EDITOR:

Paul's communication was the beginning of his trouble. What he said and what John understood were two different things. This is a common problem that gives us all trouble. I think Paul should encourage his people to question him on instructions that are not clear, and to determine the deadline if it isn't stated.

Then, Paul's judgment was bad. He should have known the capacity of his group well enough to realize that the Duffield tickets were going to cause some difficulty. He may have taken a chance that the day would be a slow one. In this case, he should have checked on the work during the day. It would have been better if Paul had assumed it would be an average or busy day—in which case, he would have taken steps immediately to ease the situation.

If this situation happens regularly, a study should be made to

determine if better use could be made of the present staff, or if time could be saved by a change in procedure. New mechanical equipment may help.

If Paul had been on top of the situation, he could have tried to find someone to fill in temporarily. If this could not be done, then he should ask for a person to volunteer to work overtime, or do it himself. The last thing that can be sacrificed is customer service. Taking a person off the counter would be such a sacrifice.

Paul's approach was inconsiderate. When overtime is necessary, he should consider the possible pressures, such as family obligations and appointments. The best solution is to call the group together as soon as he knows overtime is needed and tell them the situation. People will usually respond favorably to this approach, and the people available will arrange to do the work. If no one can work, then as a last resort Paul should do the job, since he is responsible for it.

People respect a supervisor for not forcing them and they would make a real effort to be available the next time. The more considerate you are of others, the more considerate they will be of you. This may not be true in all cases, or the first time you try it, but ultimately it will be true.

Paul should try to establish a better working relationship with his people. A calmer approach would help. He should encourage his people to try to get the "feel" of the job they are doing. This takes time to develop, but it is an important part of teamwork.

A large part of responsibility for helping his people become a better team rests with Paul. He may have to do some learning himself before he can teach, but the results will be well worth the time and effort.

—LAWRENCE W. NELSON
Production Staff
The Upjohn Company
Kalamazoo, Michigan

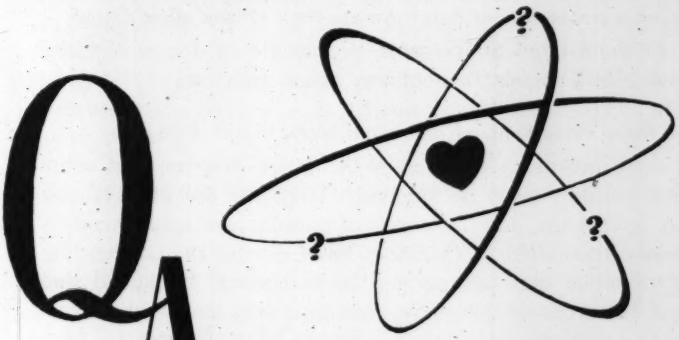
Call for volunteers

TO THE EDITOR:

Paul should have emphasized the time limit and checked during the day to see if the job was being done. He would have found that all four representatives were busy all day attending to customers (their most important duty), and he should have arranged to have another worker do the job. The job would have been done and the customers taken care of.

In the present situation, I think Paul should have admitted he was at fault and asked for volunteers to stay and help him—asking it as a favor and then offering to take them out for coffee. If it were handled like this, I'm sure all four would have volunteered and could have had a snack together, joking over the error—and everyone would have been happy.

—RUTH M. GENOVA
Ruby Products Company, Inc.
Milwaukee, Wisconsin



Q & A ON HEART DISEASE

THERE IS NO QUESTION that the outlook in heart disease today is a hopeful one. We have already learned a great deal about how to treat, and in a few cases how to prevent and cure, certain types of heart and blood-vessel disease. And we have a great deal more to learn.

Medical science is at work on the puzzling questions of how to prevent diseases of the heart and blood vessels, how to cure them, and how to help people with heart diseases to live longer, more useful lives.

One of the great obstacles a heart patient has to overcome is fear—for instance, that he won't be able to go back to work. But fear is usually based on misinformation, and knowing the facts can go a long way to dispel it.

On the following pages are some answers to common questions about heart disease.

These questions and answers are from two pamphlets published by the American Heart Association: *Heart Quiz* and *The Facts about Employment and Heart Disease*. Single copies may be obtained free from the association, 44 E. 23rd St., New York 10, N. Y.

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1. Do people under 40 get heart disease?

Yes. People of any age may have diseases of the heart or blood vessels.

2. Do more people die of heart disease than of any other cause?

Yes. In the United States more people die of diseases of the heart and blood vessels than of any other cause.

3. Are there many kinds of heart and blood-vessel diseases?

Yes, there are many diseases of the heart, arteries, and veins that affect various parts of the body, including the kidneys and brain. A few of the more common conditions are listed here:

Coronary heart disease. Coronary heart disease exists when the coronary arteries that nourish the heart become thickened and narrowed (atherosclerosis). This condition may lead to heart attacks or to angina pectoris, another type of heart disease.

Strokes. When the arteries in the brain are affected by atherosclerosis, a stroke may occur.

Kidney damage. When the arterioles (small arteries) of the kidneys are narrowed or blocked as a result of atherosclerosis, the kidneys are not able to function normally.

Hypertensive heart disease. High blood pressure may eventually affect the heart and result in hypertensive heart disease.

Rheumatic heart disease. Rheumatic fever may damage the heart valves, causing rheumatic heart disease. Although rheumatic fever is more common in childhood, many adults suffer from its effects.

Congenital heart defects. Some babies are born with defective hearts. These heart defects vary in type and severity.

Varicose veins (swollen veins). This is a common disorder of the veins. It affects the legs, primarily.

4. Do scientists now know all the causes of heart and blood-vessel diseases?

No. But medical science is making great progress. Some causes have been determined. More will be discovered as more funds become available and more skilled scientists are dedicated to research.

5. Can physical effort cause heart disease?

No. Ordinary physical effort does not produce heart disease.

6. Can physical exertion cause a coronary thrombosis?

Coronary thrombosis means a blocking of one of the vessels that supply blood to the heart muscle. Most authorities believe that there is no relationship between effort and blockage of a coronary artery. This opinion is based mainly on the fact that more than half of all attacks of coronary thrombosis occur while the person is asleep or at rest, while only 2 per cent are associated with unusual exertion. A few heart specialists disagree with this point of view.

7. Can physical exertion cause sudden pain in the region of the heart?

There are many causes for sudden pain in the region of the heart. Many of them have nothing to do with heart disease. A common cause of this pain that *is* related to the heart is a diseased condition of the arteries that supply blood to the heart muscle. If these arteries are *already diseased,* physical effort may result in pain in the region of the heart.

8. If your heart sometimes skips a beat, is this a positive sign of heart disease?

No. Many a person with a normal heart may sometimes feel his heart skipping a beat or beating faster or slower than usual. However, it *may* be a sign of heart disease. If it happens to you, see your doctor.

9. Is it possible to have a heart murmur without having heart disease?

Yes. Some people with perfectly good hearts have slight murmurs. Your doctor will tell you when a murmur is a sign of heart disease.

10. If you get short of breath after climbing a flight of stairs, is this a positive sign of heart disease?

No. While shortness of breath *may* be a sign of heart disease, there are many other troubles that can cause it. If you have shortness of breath, see your doctor.

11. Is a pain in the left side of the chest a positive sign of heart disease?

No. A pain in the left side of the chest is usually *not* a sign of heart disease, but it should be checked by your physician.

12. Does the height of blood pressure alone show how serious a heart condition is?

No. The condition of the heart and arteries and their ability to withstand the pressure are more important than the height of the blood pressure. Only a doctor can determine the patient's condition.

13. Is overweight harmful to people with heart disease?

Yes. Overweight puts an extra strain on the heart.

14. If a baby is born with a defective heart, can anything ever be done to remedy the defect?

Yes. Often surgery can help or cure the child. See your doctor.

15. Can rheumatic fever be prevented?

Yes. Doctors can usually prevent rheumatic fever by prompt and thorough treatment of streptococcal sore throats and certain other strep infections. Doctors often prescribe regular, continuous medication for patients who have had rheumatic fever, to protect them against strep infections that may lead to repeat attacks of rheumatic fever.

16. Do most people who have a heart disease die suddenly?

No. In most types of heart disease, death, when it comes, is not sudden. Many sudden deaths are wrongly blamed on heart disease.

17. When a person has a coronary thrombosis, must he be an invalid for the rest of his life?

No. Many patients recover completely.

18. Can people work if they have heart disease?

Yes. Most people with heart disease can and do work. Many cardiacs who are not working could become self-supporting if they were placed in suitable jobs. The sooner the cardiac gets back on the job, the better he'll feel and the better he'll work.

19. Can all people with heart disease work?

No. Some people with diseases of the heart or blood vessels are not able to be active at all. But these make up only a small percentage of people with cardiovascular diseases.

20. How can one tell whether a person with heart disease should work or not?

Only a physician can give reliable advice. The physician will first find out what the worker's capacity is; then he must learn what the physical demands of the job are. In some cities, heart associations have organized work-evaluation clinics. The family physician sends his patients to the clinic for recommendations on the kinds of physical demands they can meet.

21. What kind of work can people with heart disease do?

Most people with heart disease can do almost any kind of work for which they are qualified. Most cardiacs who return to work are able to go back to their old jobs.

Some workers, whose hearts have been more seriously affected, must change the type of work they do. And people with certain kinds of heart diseases should not work in damp, overcrowded places.

22. Is it risky for an employer to hire a person with heart disease?

If the employee is known to have an abnormal heart and has been placed at a job for which he is physically qualified, the employer runs no special risk. On the basis of the physician's recommendations, he can place the worker in a job where there will be no danger to the worker, to other employees, or to the equipment. The worker with unknown or unsuspected heart disease is a much greater risk to the employer.

23. Do workers with heart disease do as well on the job as those without heart disease?

Yes. The results of a recent United States Department of Labor study are typical of the experience reported by many large industries. 1,840 cardiac workers were compared with 3,055 workers without heart disease on the same types of jobs in over 50 different industries. There was only a small difference in job performance between the two groups—and this difference was in favor of the cardiac workers, who produced slightly more than the noncardiac workers.

24. Will the employer's workmen's-compensation-insurance rates go up if he hires people with heart disease?

No. Experience shows that insurance rates are not increased when the worker's heart condition is known, so that he can be placed in a suitable job.

25. What are heart associations doing to increase employment possibilities for people with heart disease?

Many heart associations are setting up work-evaluation clinics. Patients referred to these clinics are examined by a team that usually includes a specialist in heart disease, a psychiatrist, a social worker, and a vocational counselor or vocational-placement worker. These clinics have the approval of management and labor groups as well as physicians.

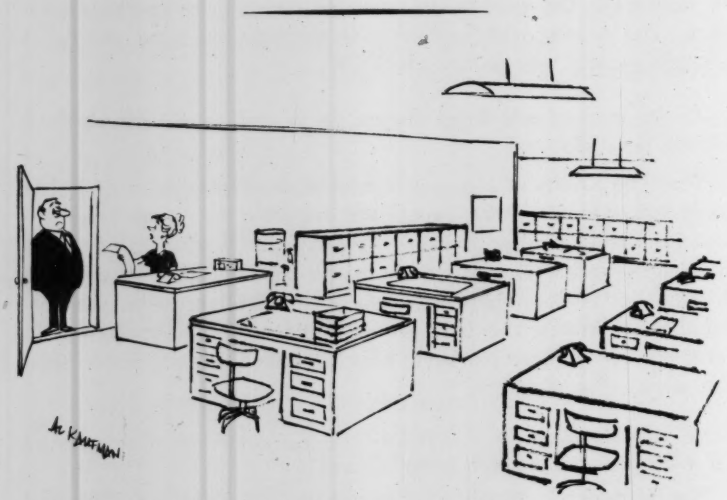
Heart associations encourage the use of sheltered workshops to help heart patients get back on their feet. At the workshops, patients increase their confidence and work capacity so that they can later take jobs in industry.

26. Do you know what services there are in your community for people with heart disease?

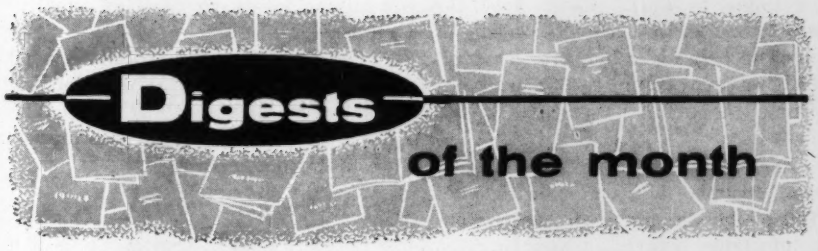
If your answer is "yes," you deserve a medal of merit—but don't stop there. Work with your local Heart Association to:

—let others know what help is available.

—improve and extend present services for people with heart diseases. ♦



"Mr. Donovan called in—flu; Mr. Green called—wife's sick; Miss Wexler—cold; Mr. Bratton—baby kept him up all night; Mr. Richards—upset stomach; Mrs. . . ."



How to Disagree Agreeably

THERE'S ONE THING about Ken Edmunds. He can tell you you're way off base and still make you like it."

Each of us has been lucky enough to know people like Ken Edmunds. They let us know we're wrong; they knock holes in our arguments; but for some reason or other we don't get angry at them or feel we've been abused. What's their secret? How can some people disagree in a way that's inoffensive and helpful?

Hit the thought, not the thinker

Put yourself on the receiving end and you will immediately see the difference. An attack on you is a questioning of your integrity, your intelligence, your ability to help solve a problem. But an attack on your idea is much easier to swallow, since the idea, even though it is your product, is something outside and apart from your personal self. We don't expect that all of our ideas are going to be red hot. We do expect respect for ourselves, however.

Question, don't state

When you make an outright statement disputing another person's thought, he feels that you are trying to deal it a death blow. But when you ask a question, you are bringing his idea forward for further examination.

Here's part of a talk between three production supervisors. Let's call them Art, Vic, and Jerry. Jerry has just suggested that, to avoid overtime, they trade employees back and forth among their three departments:

Jerry: "So when I'm shorthanded, I'd call you and see if you could lend me a couple of people. You do the same when you're in trouble. What do you think?"

Art: "You're crazy if you think the union would let you get away with it."

Vic: "Wait a minute, Art, maybe Jerry's thought of that. How do you figure the union'll react to the idea, Jerry?"

Art is knocking Jerry's suggestion into a cocked hat with his statement. Vic, by using a question, is keeping the matter alive, giving Jerry a chance either to explore it further or to decide to drop the idea himself.

Look for what's valuable

Even the most "wrong" idea frequently has something "right" in it. Here's another response that Art might have made in the beginning:

"Boy! Would I like that. But there's

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the union to worry about. Say! Do you think maybe we could get the union to help make the arrangements? They've been getting a lot of complaints about the irregular work loads."

Remember, you don't learn much from people who agree with you. Those who disagree—who put an uncomfortable thought in your mind—can very well stimulate you to knowledge and ideas you would never have found by yourself.

In every suggestion there is at least the one positive value that it shows that the suggester is thinking, applying himself to the problem, trying to contribute a solution. Here are several ways to start with the good side:

"A lot of the evidence certainly points that way, Pete, but . . ."

"Jack, your idea is valuable because it raises a lot of questions we ought to consider; for instance . . ."

"I agree 100 per cent that we need to get the aisles opened up, Jim, but will we be able to . . .?" Here you use a question to voice your doubts about the method proposed.

Avoid emotional words

"Feeling words," that is, words that have emotions associated with them, often trip us up at the most unexpected times.

"This notion of yours, Sam . . ." is an example. "Notion" is a belittling term when Sam thinks his idea is important.

Instead, use respectful, straight words that say what you want to say without particular coloration.

• *S. G. Williams*
TEXTILE WORLD
January, 1960

Timetable for Automation

FIVE YEARS? Next year? Or next week? When will the newest developments in automation be available for industry?

The most immediate progress is going to be made in the area of communication equipment.

Communication equipment

As the chart on page 57 indicates, equipment will be available this year for transmitting data from one punched card to another over regular long-distance telephone wires. For example, machines installed in a company's branch plants will send information to headquarters at a rate of 40 cards a minute—for the price of a phone call. At headquarters, a receiving machine will transfer the data onto another card.

An extension of this system, the card-to-card information station, also will be available this year. It will work like this:

A production worker will drop his time card into a "remote-station" computer on the production floor. Using a keyboard, he will insert data such as the quantity he produced and his employee number. This information will then be transmitted over cables to a central information station. Data transmitted from all the remote stations will be accumulated, converted to magnetic tape, and fed into the computer.

Improvements in magnetic-tape transmission, however, will eventually do away with the extra operation of converting punched cards to tape. By 1961, tape-to-tape transmission, using

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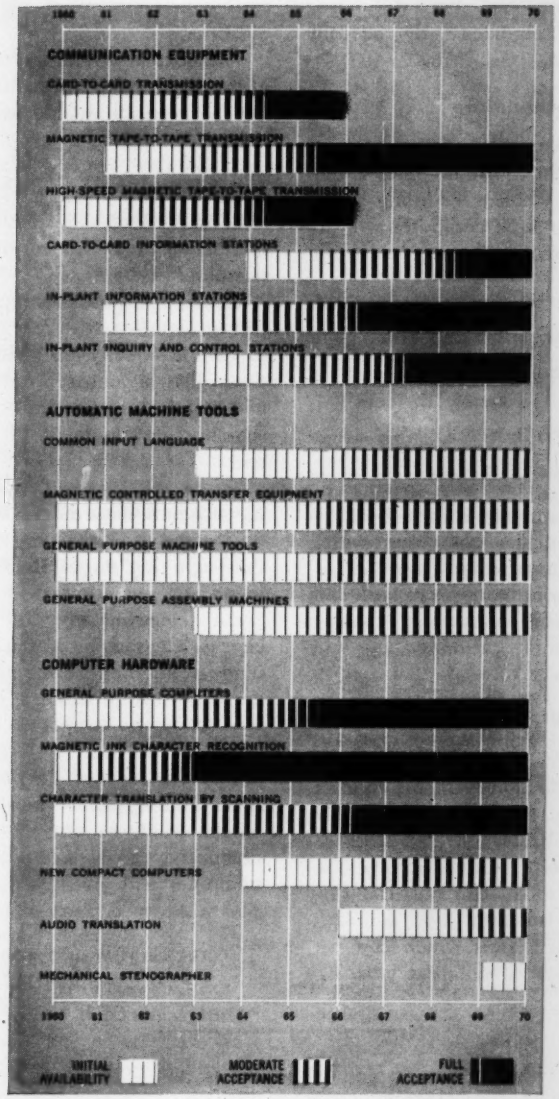

long-distance telephone lines, will be available. Even higher-speed tape-to-tape transmission will be possible with the use of coaxial cable. This advance is expected in about 1964.

Before the decade is out, it will be possible to feed information from remote stations in plants and offices directly into a central computer. This computer will not only maintain an

up-to-the-minute file, but will also immediately feed back any needed data in the file.

Automated scheduling

By 1963, we will see the in-plant inquiry-and-control station. This could automate the whole scheduling process. A medium-sized computer will do the basic filing of incoming data from the remote stations. This will be attached to a bigger computer, which will draw its information from the file, coordinate complex processes like scheduling, and relay any changes back to the remote stations.

The Computer and You

Turn to page 35 to find out what you'll need to know "If There's a Computer in Your Future."

Automating the plant

The truly automatic factory is still far from a reality today; but during the next decade improvements on existing equipment and systems will bring it closer to realization.

To be efficient, automatic tape-controlled tools today can perform only one specific function. But automatically controlled tools which can perform a number of different jobs, like cutting and stamping, will be in use by 1962.

The next step after the development of these general-purpose machine tools will be general-purpose assembly machines.

The computer advances

Behind all of these advances are a number of major improvements in the computer itself.

General-purpose computers, which will be installed next year, will be able to handle equally well business functions like inventory and scheduling and engineering functions like the design and development of new equipment.

Wider use of magnetic-ink character-recognition systems will take place during the decade. Many banks are in the beginning stages of using magnetic-ink account numbers, which can be "read" electronically, for identifying checks. Character translation by scanning is another development in this area. In this process, a photoelectric eye scans the numerals and records them.

By 1966, it will be possible to instruct a computer by means of spoken words. And, by about 1970, a mechanical stenographer attached to the computer will give you recorded data you want on a sheet of paper.

• *John Diebold*
DUN'S REVIEW AND MODERN INDUSTRY
Volume 74, no. 6

IF A MAN HAS A TALENT and cannot use it, he has failed. If he has a talent and uses only half of it, he has partly failed. If he has a talent and learns somehow to use the whole of it, he has gloriously succeeded, and won a satisfaction and triumph few men ever know.

—THOMAS WOLFE

Aggressiveness: Channeled for Leadership

SUBORDINATES seldom do good work for a manager who bulls ahead and bruises their feelings."

"A man may think he's doing a good job and getting along with his associates. Actually, his personal aggressiveness may stand between him and them."

These comments refer to a trait that most supervisors have but that they often fail to recognize: aggressiveness. Within limits, aggressiveness is normal and constructive. It can't and shouldn't be eliminated, but it can be controlled.

In this article, three psychologists familiar with management problems discuss how a supervisor can channel his personal aggressiveness to make himself a better manager.

Minimize the negative

DR. JAMES N. FARR, President, Farr & Glasscock Associates, New York.

Q. *What is aggressiveness?*

Farr: Aggressiveness is excessive energy, directed at meeting a challenge. That challenge is usually self-improvement. Now, suppose a man's aggressiveness gets him up the ladder. That's when it's important for him to channel his personal drive into areas other than self-betterment.

Q. *Can a supervisor's overaggressiveness hurt his company?*

Farr: Yes. The good subordinates may leave for jobs where they have more opportunity for growth and expression. The weak ones may stay on, leaving the manager with a team of second-rate men.

Q. *Should he try to subdue his aggressiveness completely?*

Farr: Not by any means. You don't want the man to change. You want him to learn how to use his drive effectively, just as he is.

Q. *How can a supervisor channel this aggressiveness into something that will work for himself—and the company?*

Farr: First, he needs an objective picture of himself. He has to understand fully that the way he uses his aggressiveness is detrimental to himself and the company. Then he has to put his drive to good use.

Q. *Is it really possible for a man to redirect his aggressiveness this way?*

Farr: In most cases, it is. When I come across a man whose exaggerated drive is detrimental, I reason with him like this: "You're a manager. You wouldn't be unless you were bright and aggressive enough. Just understand that aggressiveness has its negative aspects. Learn how to minimize them."

Lead, guide, encourage

DR. DONALD H. DIETRICH, President, Donald Dietrich & Associates, Chicago.

Q. *Dr. Dietrich, how can a manager's aggressiveness alienate the feelings of the people he works with?*

Dietrich: It stands to reason that if a supervisor bulls ahead and bruises the feelings of his associates, they're not going to be cooperative nor show much initiative.

Q. *How can a man use his aggressiveness to his best advantage?*

Dietrich: He has to channel it, control it, discipline himself. When most of his work has to be done through others, he must stimulate and encourage his associates. His job is to lead,

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guide, and direct—not push, pull, and criticize.

Q. *How do overaggressive managers unintentionally damage a company?*

Dietrich: They may talk too much, do too much, criticize too much, and make their subordinates feel inadequate. This can harm the subordinate's effectiveness seriously.

To work effectively with people, a manager has to gain their confidence. Too much aggressiveness can kill it.

Curb that impulse!

DR. JOHN R. MARTIN, President, John R. Martin Associates, New York.

Q. *Dr. Martin, how can a manager combat his natural forcefulness?*

Martin: First, he's got to curb it. Even if he knows the answers to certain problems, it will help in the long run if he lets his subordinates find the answers for themselves.

Q. *What else should he do?*

Martin: He should be absolutely clear in every request he makes. Often overaggressive men dash off an order hastily and they're really the only ones who understand it. This only adds to the subordinate's impression that his supervisor is an impatient and inconsiderate man.

A good way to get in the habit of being clear is to organize every request or order you plan to make. Write it out, if necessary. Answer any questions to yourself that your request might imply but does not answer specifically.

Q. *How can a manager channel a natural and spontaneous aggressiveness?*

Martin: Let me cite the case of one manager I know. He's a real spark plug. He gets excited easily, which leads to his enthusiasm and aggressiveness. His aggressiveness gives him the capacity to transfer his excitement to his men.

I was at one meeting where he spoke. After it was over, his subordinates were like a college football team after a pep talk.

That's what he does with his aggressiveness—he uses it to inspire other people.

Q. *How often does a manager recognize his overaggressiveness?*

Martin: Seldom. We all have ideal concepts of ourselves and ideal concepts of the way we operate. Basically, everyone tries to be a pretty good guy, because everyone likes to be liked. A man may think he's doing a good job and getting along admirably with his associates. Actually, his personal aggressiveness may stand between him and them.

AN EDUCATION is not a single entity, developed in a few semesters of study and delivered with the diploma. It is a never-ending process built up over years of exposure and experience. Many of the interests which broaden and enrich our lives and our careers are developed long after we have left school.

—CRAWFORD GREENEWALT
President, E. I. du Pont de Nemours & Company

Meeting the Challenge of Foreign Imports

THERE'S a minor civil war under way in the U.S. Imported goods are pouring into this country from across two oceans, welcomed and encouraged by some businessmen, bitterly opposed by others.

The inflow is going on at a rate never seen before. It was already at a record level a year ago; in recent months it has risen even higher, by 20 per cent.

But more revealing than figures is a walk through any department store —even those in the smaller towns. Counter after counter is filled with foreign goods: copper chafing dishes from Italy, stainless steel flatware from Holland, saltcellars from Sweden or Austria, tiny transistor radios from Japan (selling for less than the U.S.-made ones), portable typewriters from Switzerland and Italy (as many as from this country), sewing machines and cameras from Germany and Japan, and silk fabrics, finished clothing, and neckties from Hong Kong, Japan, and Italy.

Eighty per cent of the fancy foods on supermarket shelves are foreign made. A grocer considers his place well stocked nowadays only if he carries hams from Denmark, Holland, and even Poland, preserves and cookies from England, truffles from France, beer from West Germany, Mexico, and Israel.

World trade fairs

Across the U.S., one city after another is holding a world trade fair, where increasing numbers of foreign companies display their wares. Seeing these exhibits, many U.S. producers shudder with apprehension. They find even more foreign autos—including several new makes from Japan. They see portable refrigerators, new types of dehydrated foods, lower-priced washing machines, and television sets and other home appliances about to be imported.

Facing such an onslaught, it's no wonder that brother may be pitted against brother—if one is a manufacturer and the other an importer. A shoe store, for example, may do a booming business in the importer's Italian-made styles. At the same time, however, this competition may force a New England shoe manufacturer to cut back production.

The trend toward internationalizing our taste in goods is not just temporary. More and more U.S. stores have permanent buying staffs based in Europe. Even the small merchandiser

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in a Midwestern or Southern town tells his purchasing representative in New York to keep in touch with foreign sources and let him know of new offerings from abroad.

Why the revolution?

What is causing this product revolution?

In a sense, it's a return to normal. Foreign makers always could undersell Americans on many items because of the lower wages they pay. But this had been forgotten for a quarter century because World War II took most of our competitors out of the marketplace. As we helped them rebuild in postwar years, they added more modern machinery; now their traditional wage advantage is reinforced by more efficient methods.

For a good number of U.S. companies, the answer has seemed to lie in the approach: "If you can't lick 'em, join 'em." There has been a sudden turn toward joint ventures abroad. U.S. firms go into partnership with foreign firms, putting up money, patents, or know-how to turn out products abroad that can be sold more cheaply back here.

Other Americans have gone into foreign manufacturing ventures on their own, establishing branch plants to produce some of their items overseas at lower cost. And a small number have taken the drastic step of closing down their U.S. manufacturing operations and relying entirely on production overseas.

Now that U.S. business is alert to the challenge, competitive adjustments are being planned behind the doors of top-level conference rooms. Here are some of the changes that consumers will be noticing soon:

Coming changes

1. *Many U.S. manufacturers are adding cheaper second lines—products that frankly give the customer a little less, but at a lower price.*

The smaller cars are one example. U.S. factories aren't trying to turn out competitors for the tiny Fiats and Volkswagens. Some auto executives say Detroit couldn't even produce the *parts* for what it costs some European makers to land a finished car here. But the major U.S. auto companies now offer an intermediate size, a car with less space and fewer extras than today's $3,000-to-$6,000 vehicles, yet one that is more solid and perhaps better crafted than some of the tiny European cars.

Other industries are following the same trend: Makers of chinaware, surgical appliances, musical instruments, and sporting goods are readying cheaper lines—not in place of their best wares, but as alternate offerings.

2. *More companies are eliminating frills from some of their products without downgrading basic quality.*

This is especially true of industrial equipment, often overadorned. One U.S. firm specializing in industrial laundry equipment was shocked when a German company underbid it drastically on Latin American business that it had always captured before. The German product was just as serviceable, but far less beautiful. "That taught us a lesson," says the American company's chief executive. "From now on, our goods will be just as durable —but without so many trimmings."

3. *Some firms here are adding prestige lines to meet the "snob appeal" that has helped to put many imports across.*

A few makers of housewares, faced with the impossibility of meeting some of the low foreign prices they have to compete with, are trying instead to produce household goods so distinctive and so well made that price comparisons just won't enter the picture.

More kinds of goods

The sum total of all these moves will mean more kinds of goods on the market—more foreign and more "made in U.S.A." The horizon of the buying public is being broadened by the introduction of more and more new products. The average supermarket, for example, had 3,500 kinds of products in stock a few years ago; today, it keeps 4,000 to 6,000 to satisfy customer requests.

Will U.S. business learn to live with foreign competition? Industrialists are divided on the question. Some are guardedly optimistic, while others see unemployment and loss of business leadership ahead for America. But most of the top men in government and finance—trying to look objectively at the whole picture—see a bright outlook. Many predict that a stronger U.S. will be created by the new stresses. Analysts of international business say we must go supermodern—with automation and electronics giving us such productive efficiency that even our wage disadvantage will be overcome.

Whether this is possible or not, the next two or three years will be a period of change and challenge for many companies—and a happy time for buyers with money to spend.

• *Charles A. Cerami*
THINK
November, 1959

Hiring—In the Home Stretch

A SUPERVISOR'S INTERVIEW with a job applicant is a vital step in the hiring process. After the applicant's forms are filled out and all the steps leading to his preliminary selection are completed, the final choice rests with the supervisor.

You know the jobs in your department better than anyone, except the men doing them. In this interview, you can find out how much the applicant knows and just how it will pertain to the specific job.

Does he know the job?

You or the personnel department has already evaluated the man's work history and experience, education and training, family background, financial situation, domestic and social situations, and health record. The applicant may have had an initial interview covering these basic facts. At this point, you needn't cover the same ground. Concentrate on the factors that apply to the work the applicant will be doing —particularly his specific training, experience, and job knowledge.

Try to imagine how the man will perform in various jobs in your department—*but not in your job.* (It's a mistake to hire only men who are "supervisory material.")

For jobs for which no testing program exists, you can estimate the applicant's knowledge of the work, or his aptitude for it, by trying him out on a machine or asking technical questions.

Asking technical questions, though,

includes two major pitfalls. The first is that the questions may be too difficult. The other is the tendency to judge applicants on the basis of too few questions or even one pet one. Both these practices can lead to the rejection of good applicants and the selection of unsatisfactory ones.

Will he fit into the group?

If the man's job knowledge appears satisfactory, you will want to know how he fits into your work group. Does he, for example, seem interested in the job and in the department? How sensitive does he seem to be to the feelings of other people? In other words, how does he strike you as a person?

It's not easy to react to a man without bringing your own bias or stereotypes into the picture.* But be aware of them, and remember that the prime requirement of successful interviewing is *objectivity*.

It's your turn

At this point, it's time for the supervisor to be on the answering end of the interview. If the company is entitled to information with which to decide whether to accept the applicant, it is just as logical for the applicant to be given enough facts to help him decide whether he wants the job. You should give him a straightforward account of the work and working conditions—favorable and unfavorable. If the total picture is appealing to him, the applicant will start his new job with the correct idea of the advantages and disadvantages.

If the interview has gone well so far and you're going to hire the applicant, you now have an opportunity to establish a feeling of mutual understanding and confidence that will make for a constructive working relationship. You and the applicant should exchange ideas and attitudes, as a start toward getting to know each other better.

Once he's on the job, forget the whole process. From now on, he should be judged solely on his job performance, and not on what you've predicted in the interview.

*For further details, see *Sharpen Up Your Interview Approach*, by Arthur D. Kellner, in SM, February, 1960.

• PERSONNEL NEWSNOTES
Owens-Illinois
November, 1959

Disability Days and Income

THE LOWER a worker's family income, the more working days he tends to lose from personal sickness or injury, according to the U. S. Public Health Service. Industrial workers with family incomes over $7,000 a year, for instance, lost an average of 5.9 working days from July, 1957, to June, 1958, while those with family incomes under $2,000 lost an average of 10.3 days from work over the same period.

The survey also indicated that men in lower-income families tended to lose more days from work than women in the same economic strata. In the higher-income groups, however, the situation was reversed.

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Supervisory Management

Watch For These Articles In Future Issues:

HOW AM I DOING?

Everyone in your department has the right to know—from you—what you expect of him, how well he's doing, how he can do better. And giving him the answers will pay off in improved morale and improved performance.

This short series of articles will help you increase your skill in discussing appraisals with each member of your group.

DO YOU KNOW HOW TO GIVE AN ORDER?

What's so hard about giving an order? Nothing—except getting the results you had in mind. There are no less than seven steps to a completely effective order, says management specialist Paul Pigors.

YOU CAN BEAT THE BREAK-EVEN POINT

Additional units become much more profitable once the basic costs of production have been met. The lower your costs, the lower your break-even point.

AMA